

**REMARKS**

The Office Action mailed February 5, 2004, has been received and reviewed. Claims 1 through 421 are currently pending in the application. Claims 1, 4-8, 12, 15-17, 19-21, 24-26, 66, 69-72, 76, 79-81, 83-85, 88-90, 98, 101-103, 107, 110-112, 115, 116, 119-121, 129, 132, 133, 137, 140-142, 144-146, 149-151, 188, 191, 192, 202, 203, 206, 208, 269, 272-273, 276-277, 280, 281, 284-286, 294, 297, 298, 301, 302, 305, 308-310, 318, 321, 322, 325, 326, 329, 332, 333 stand rejected. Claims 2, 3, 9-11, 13, 14, 18, 22, 23, 27-33, 67, 68, 73, 75, 77, 78, 82, 86, 87, 91-97, 99, 100, 104-106, 108, 109, 113, 114, 117, 118, 122-128, 130, 131, 134-136, 138, 139, 143, 147, 148, 152-158, 189, 190, 193-196, 200, 201, 204, 205, 207, 209-215, 270, 271, 274, 275, 278, 279, 282, 283, 287-293, 295, 296, 299, 300, 303, 304, 306, 307, 311-317, 319, 320, 323, 324, 327, 328, 330, 331, 334-340 have been objected to as being dependent upon rejected base claims, but the indication of allowable subject matter in such claims is noted with appreciation. Claims 34-65, 159-187, 216-268, and 341-421 are allowed.

All claims are amended herein to replace the term "said" with the term "the", an equivalent term that does not reduce the scope of the claims or surrender any equivalents thereto. Claims 1, 10, 32, 66, 73, 98, 105, 129, 135, 188, 200, 203, 269, 318, 323, and 327 include additional amendments. Claims 9, 18 and 274 have been canceled without prejudice or disclaimer. Reconsideration is respectfully requested.

**35 U.S.C. § 102(b) Anticipation Rejections**

**Anticipation Rejection Based on Patent No. JP-02-37964 to Fujita**

Claims 1, 5-8, 15-17, 19-21, 24, 66, 70-72, 79-81, 83-85, 88, 98, 102, 103, 110-112, 115, 116, 119, 129, 133, 140-142, 144-146, 149, 269, 273, 276, 277, 280, 281, 284, 294, 298, 301, 302, 305, 308 stand rejected under 35 U.S.C. § 102(b) as being anticipated by Fujita (Patent No. JP-02-37964). Applicants respectfully traverse this rejection, as hereinafter set forth.

A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference. *Verdegaal Brothers v. Union Oil Co. of California*, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987). The identical invention

must be shown in as complete detail as is contained in the claim. *Richardson v. Suzuki Motor Co.*, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989).

Fujita discloses an automatic soldering level adjusting device. A laser transmitter/receiver 8 regulates the height of solder in a solder tank 14. When the level is too low or too high, the solder tank 14 is raised or lowered appropriately. (Abstract) A leveling block 25 is disclosed but not identified in the drawings. It is unclear whether the leveling block levels the tank or the solder. Regardless, applicants respectfully submit that Fujita fails to disclose, either expressly or inherently, every element of the presently claimed invention.

Claim 9 was indicated as being allowable if rewritten in independent form. Applicants canceled claim 9 and incorporated the elements of canceled claim 9 into independent claim 1 of the presently claimed invention. Applicants respectfully submit that Fujita fails to disclose, either expressly or inherently, "pumping the viscous material into the viscous material pool" as recited in claim 1 of the presently claimed invention. Accordingly, claim 1 is not anticipated by Fujita. Thus, claim 1 is allowable.

Claims 5-8, 15-17, 19-21 and 24 are each allowable as depending, either directly or indirectly, from allowable claim 1.

Claim 15 is further allowable as Fujita fails to disclose, either expressly or inherently, leveling the exposed surface of the viscous material prior to the wetting a specific location of the at least one semiconductor component.

Claim 16 is further allowable as Fujita fails to disclose, either expressly or inherently, providing the viscous material to the viscous material pool such that the exposed surface of the viscous material reaches an initial exposed surface height higher than a desired exposed surface height; and flattening the initial exposed surface height to the desired exposed surface height.

Claim 17 is further allowable as Fujita fails to disclose, either expressly or inherently, metering the initial exposed surface height with a wiper.

Claim 19 is further allowable as Fujita fails to disclose, either expressly or inherently, drawing back the viscous material to flatten the exposed surface of the viscous material.

Applicants respectfully submit that Fujita fails to disclose, either expressly or inherently, "providing a viscous material pool containing viscous material, the viscous material pool

including an inlet and shaped such that an exposed surface of the viscous material is located in a precise location and including at least one upward facing opening, the at least one upward facing opening exposing at least the exposed surface of the viscous material; delivering the viscous material into the viscous material pool through the inlet” as recited in independent claim 66 of the presently claimed invention. Accordingly, claim 66 is not anticipated by Fujita. Thus, claim 66 is allowable.

Claims 70-72, 79-81, 83-85 and 88 are each allowable as depending, either directly or indirectly, from allowable claim 66.

Claim 79 is further allowable as Fujita fails to disclose, either expressly or inherently, leveling the exposed surface of the viscous material prior to the wetting a specific location of the at least one semiconductor component.

Claim 80 is further allowable as Fujita fails to disclose, either expressly or inherently, providing the viscous material to the viscous material pool such that the exposed surface of the viscous material reaches an initial exposed surface height higher than a desired exposed surface height; and flattening the initial exposed surface height to the desired exposed surface height.

Claim 81 is further allowable as Fujita fails to disclose, either expressly or inherently, metering the initial exposed surface height with a wiper.

Claim 82 is further allowable as Fujita fails to disclose, either expressly or inherently, pumping the viscous material into the viscous material pool.

Claim 83 is further allowable as Fujita fails to disclose, either expressly or inherently, drawing back the viscous material to flatten the exposed surface of the viscous material.

Applicants respectfully submit that Fujita fails to disclose, either expressly or inherently, “pumping the viscous material to a desired height above the viscous material pool” as recited in independent claim 98 of the presently claimed invention. Accordingly, claim 98 is not anticipated by Fujita. Thus, claim 98 is allowable.

Claims 102-103, 110-112, 115-116 and 119 are each allowable as depending, either directly or indirectly, from allowable claim 98.

Claim 110 is further allowable as Fujita fails to disclose, either expressly or inherently, leveling the exposed surface of the viscous material prior to the biasing the at least one semiconductor component.

Claim 111 is further allowable as Fujita fails to disclose, either expressly or inherently, providing the viscous material to the viscous material pool such that the exposed surface of the viscous material reaches an initial exposed surface height higher than a desired exposed surface height; and flattening the initial exposed surface height to the desired exposed surface height.

Claim 112 is further allowable as Fujita fails to disclose, either expressly or inherently, metering the initial exposed surface height with a wiper.

Applicants respectfully submit that Fujita fails to disclose, either expressly or inherently, “raising the viscous material to a desired height above the viscous material pool” as recited in claim 129 of the presently claimed invention. Instead, Fujita discloses raising and lowering the viscous material pool. As Fujita fails to disclose every element of the presently claimed invention, claim 129 is not anticipated by Fujita. Thus, claim 129 is allowable.

Claims 133, 140-142, 144-146 and 149 are each allowable as depending, either directly or indirectly, from allowable claim 129.

Claim 140 is further allowable as Fujita fails to disclose, either expressly or inherently, leveling the exposed surface of the viscous material prior to the wetting a specific location of the at least one semiconductor component.

Claim 141 is further allowable as Fujita fails to disclose, either expressly or inherently, providing the viscous material to the viscous material pool such that the exposed surface of the viscous material reaches an initial exposed surface height higher than a desired exposed surface height; and flattening the initial exposed surface height to the desired exposed surface height.

Claim 142 is further allowable as Fujita fails to disclose, either expressly or inherently, metering the initial exposed surface height with a wiper.

Claim 144 is further allowable as Fujita fails to disclose, either expressly or inherently, drawing back the viscous material to flatten the exposed surface of the viscous material.

Dependent claim 274 was indicated as containing allowable subject matter. Claim 274 has been canceled and the elements have been incorporated into independent claim 269. As

Fujita fails to disclose, either expressly or inherently, “pumping the viscous material into the viscous material pool” as recited in claim 269 of the presently claimed invention, applicants submit that claim 269 is not anticipated by Fujita. Accordingly, claim 269 is allowable.

Claims 273, 276-277, 280-281 and 284 are each allowable as depending, either directly or indirectly, from allowable claim 269.

Claim 276 is further allowable as Fujita fails to disclose, either expressly or inherently, providing the viscous material to the viscous material pool such that the exposed surface of the viscous material reaches an initial exposed surface height higher than a desired exposed surface height; and flattening the initial exposed surface height to the desired exposed surface height.

Claim 277 is further allowable as Fujita fails to disclose, either expressly or inherently, metering the initial exposed surface height with a wiper.

Applicants respectfully submit that Fujita fails to disclose, either expressly or inherently, “controlling the height of the exposed surface of the viscous material using a pump and a detection mechanism” as recited in independent claim 294 of the presently claimed invention. As Fujita fails to disclose, either expressly or inherently, every element of claim 294 of the presently claimed invention, applicants respectfully submit that Fujita does not anticipate claim 294. Accordingly, claim 294 of the presently claimed invention is allowable.

Claims 298, 301-302, 305 and 308 are each allowable as depending, either directly or indirectly, from allowable claim 294.

Claim 301 is further allowable as Fujita fails to disclose, either expressly or inherently, providing the viscous material to the viscous material pool such that the exposed surface of the viscous material reaches an initial exposed surface height higher than a desired exposed surface height; and flattening the initial exposed surface height to the desired exposed surface height.

Claim 302 is further allowable as Fujita fails to disclose, either expressly or inherently, metering the initial exposed surface height with a wiper.

**35 U.S.C. § 103(a) Obviousness Rejections**

Obviousness Rejection Based on Patent No. JP-02-37964 to Fujita in view of U.S. Patent No. 6,204,093 to Ahmad

Claims 4, 12, 25, 26, 69, 76, 89, 90, 101, 107, 120, 121, 132, 137, 150, 151, 188, 191, 192, 197-199, 202, 203, 206, 208, 272, 285, 286, 297, 309, 310, 318, 321, 322, 325, 326, 329, 332 and 333 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Fujita (Patent No. JP-02-37964) in view of Ahmad (U.S. Patent No. 6,204,093). Applicants respectfully traverse this rejection, as hereinafter set forth.

M.P.E.P. 706.02(j) sets forth the standard for a Section 103(a) rejection:

To establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or combine reference teachings. Second, there must be a reasonable expectation of success. Finally, **the prior art reference (or references when combined) must teach or suggest all the claim limitations.** The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, and not based on applicant's disclosure. *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991). (Emphasis added).

Applicants respectfully submit that Ahmad is disqualified as prior art against the claimed invention because the filing date of the predecessor application (U.S. Patent 6,013,535 filed August 5, 1997) from which the current application claims priority is earlier than the filing date of Ahmad (August 21, 1997). Reconsideration and withdrawal of the Ahmad reference from the rejection is requested.

With respect to claims 4, 12, 25, 26, 69, 76, 89, 90, 101, 107, 120, 121, 132, 137, 150, 151, 272, 285-286, 297, and 309-310, the Court of Appeals for the Federal Circuit has stated that "dependent claims are nonobvious under section 103 if the independent claims from which they depend are nonobvious." *In re Fine*, 5 USPQ2d 1596, 1600 (Fed. Cir. 1988). See also MPEP § 2143.03. Having failed to teach or suggest each and every limitation of the current application, the prior art referenced as rendering dependent claims 4, 12, 25, 26, 69, 76, 89, 90, 101, 107, 120,

121, 132, 137, 150, 151, 272, 285-286, 297 and 309-310 obvious, cannot serve as a basis for rejection.

Applicants respectfully submit that Fujita fails to teach or suggest “providing a viscous material pool containing viscous material, the viscous material pool including an inlet and shaped such that an exposed surface of the viscous material is located in a precise location and including at least one upward facing opening, the at least one upward facing opening exposing at least the exposed surface of the viscous material; delivering the viscous material to the viscous material pool through the inlet” as recited in independent claim 188 of the presently claimed invention. Accordingly, claim 188 of the presently claimed invention is allowable.

Claims 191, 192, 197-199, 202-203, 206, and 208 are each allowable as depending, either directly or indirectly from allowable claim 188.

Claim 197 is further allowable as Fujita fails to teach or suggest leveling the exposed surface of the viscous material prior to the wetting a specific location of the at least one semiconductor component.

Claim 198 is further allowable as Fujita fails to teach or suggest providing the viscous material to the viscous material pool such that the exposed surface of the viscous material reaches an initial exposed surface height higher than a desired exposed surface height; and flattening the initial exposed surface height to the desired exposed surface height.

Claim 199 is further allowable as Fujita fails to teach or suggest metering the initial exposed surface height with a wiper.

Claim 208 is further allowable as Fujita fails to teach or suggest providing the viscous material pool including multiple reservoirs housing the viscous material.

Applicants respectfully submit that Fujita fails to teach or suggest “providing a viscous material pool including an inlet multiple reservoirs housing viscous material, the viscous material pool shaped such that an exposed surface of the viscous material is located in a precise location and including at least one upward facing opening, the at least one upward facing opening exposing at least the exposed surface of the viscous material; delivering the viscous material to the viscous material pool through the inlet” as recited in claim 318 of the presently claimed invention. Accordingly, claim 318 of the presently claimed invention is allowable.

Claims 321-322, 325-326, 329, and 332-333 are each allowable as depending, either directly or indirectly from allowable claim 318.

Claim 325 is further allowable as Fujita fails to teach or suggest providing the viscous material to the viscous material pool such that the exposed surface of the viscous material reaches an initial exposed surface height higher than a desired exposed surface height; and flattening the initial exposed surface height to the desired exposed surface height.

Claim 326 is further allowable as Fujita fails to teach or suggest metering the initial exposed surface height with a wiper.

#### **Objections to Claims/Allowable Subject Matter**

Claims 2, 3, 9-11, 13, 14, 18, 22, 23, 27-33, 67, 68, 73-75, 77, 78, 82, 86, 87, 91-97, 99, 100, 104-106, 108, 109, 113, 114, 117, 118, 122-128, 130, 131, 134-136, 138, 139, 143, 147, 148, 152-158, 189-190, 193-196, 200, 201, 204, 205, 207, 209-215, 270, 271, 274, 275, 278, 279, 282, 283, 287-293, 295, 296, 299, 300, 303, 304, 306, 307, 311-317, 319, 320, 323, 324, 327, 328, 330, 331, 334-340 stand objected to as being dependent upon rejected base claims, but are indicated to contain allowable subject matter and would be allowable if placed in appropriate independent form. Applicants respectfully submit that the independent claims of the presently claimed invention from which these claims depend are allowable.

#### **ENTRY OF AMENDMENTS**

The amendments to the claims above should be entered by the Examiner because the amendments are supported by the as-filed specification and drawings and do not add any new matter to the application. Further, the amendments do not raise new issues or require a further search.



**CONCLUSION**

Claims 1-8, 10-17, 19-273 and 275-421 are believed to be in condition for allowance, and an early notice thereof is respectfully solicited. Should the Office determine that additional issues remain which might be resolved by a telephone conference, the Examiner is respectfully invited to contact Applicants' undersigned attorney.

Respectfully submitted,



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